

Source Water Assessment Report



Public Water Supply: HUMBOLDT, CITY OF

**Assessment Areas Include:
1013**



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Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

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Report Description

Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet-based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(<http://www.kdhe.state.ks.us/nps>) in 2004.

HUMBOLDT, CITY OF Summary:

AA	Type	Diversion Id
1013	Surface water single intake	999

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**
Diversion Id's: **999**
Status: **Accepted**
Submit Date: **2003-04-17 08:43:07**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Susceptibility Likelihood Scores for Assessment Area

	A	B	B1	B2	C	C*	D
Susceptibility Likelihood Score – SLS	58	59	63	67	60	53	62
SLS Range	Mid	Mid	Mid	Mid	Mid	Mid	Mid

A – Microbiological

B2 – Sedimentation

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

B1 – Eutrophication – Phosphorous

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
154680	Repair Services, Nec	7699	A
159562	Dairy Farms	241	B
154876	Veterinary Services, Specialties	742	B
101379	Single-family Housing Construction	1521	B
154782	Single-family Housing Construction	1521	B
155076	Single-family Housing Construction	1521	B
158847	Single-family Housing Construction	1521	B
155196	Nonresidential Construction	1542	B
158843	Newspapers Publishing and Printing	2711	B
155100	Metal Doors, Sash, and Trim Manufacturing	3442	B
101380	Farm Product Warehousing and Storage	4221	B
158799	Farm Product Warehousing and Storage	4221	B
159695	Farm Product Warehousing and Storage	4221	B
101399	Combination Utility Services, nec	4939	B
158856	Refuse Systems	4953	B
154880	Petroleum Bulk Stations and Terminals (Truck Farm)	5171	B

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
155023	Gasoline Service Station	5541	B
155071	Gasoline Service Station	5541	B
158985	Gasoline Service Station	5541	B
159539	Gasoline Service Station	5541	B
155231	Recreational vehicle sales and repair	5561	B
155099	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
158890	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
158926	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
101388	Auto Truck Repair Service	7538	B
155064	Auto Truck Repair Service	7538	B
155096	Auto Truck Repair Service	7538	B
158840	Auto Truck Repair Service	7538	B
158891	Auto Truck Repair Service	7538	B
155089	Car Wash	7542	B
158992	Car Wash	7542	B
155078	Repair Services, Nec	7699	B
155193	Repair Services, Nec	7699	B
154826	Veterinary Services, Specialties	742	C
158793	Veterinary Services, Specialties	742	C
154781	Drilling Oil and Gas Wells	1381	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
101402	Oil and Gas Field services	1389	C
155244	Rock Quarry	1429	C
154659	Single-family Housing Construction	1521	C
154842	Single-family Housing Construction	1521	C
155103	Single-family Housing Construction	1521	C
158794	Single-family Housing Construction	1521	C
159024	Single-family Housing Construction	1521	C
154892	Nonresidential Construction	1542	C
154991	Highway and Street Construction	1611	C
158968	Highway and Street Construction	1611	C
154938	Meat Packing Plant Manufacturing	2011	C
154904	Prepared Feeds For Animals and Fowls	2048	C
154786	Animal and Marine Fats and Oils Manufacturing	2077	C
154787	Wood Pallets and Skids Manufacturing	2448	C
154827	Wood Pallets and Skids Manufacturing	2448	C
159566	Metal Partitions and Fixtures Manufacturing	2542	C
154698	Newspapers Publishing and Printing	2711	C
155148	Newspapers Publishing and Printing	2711	C
159551	Newspapers Publishing and Printing	2711	C
154779	Commercial Printing NEC	2759	C
155044	Commercial Printing NEC	2759	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
155056	Commercial Printing NEC	2759	C
154788	Industrial Inorganic Chemicals Manufacturing	2819	C
154776	Rubber and plastics hose and belting Manufacturing	3052	C
154789	Plastics products Manufacturing	3089	C
154823	Concrete Products Manufacturing	3272	C
159012	Ready-mix Concrete Plant	3273	C
159559	Mineral Wool Manufacturing	3296	C
154762	Pumps and Pumping Equipment Manufacturing	3561	C
154686	Machinery, Except Electrical Manufacturing	3599	C
154790	Machinery, Except Electrical Manufacturing	3599	C
154908	Machinery, Except Electrical Manufacturing	3599	C
154945	Machinery, Except Electrical Manufacturing	3599	C
154791	Motor vehicle Parts and Accessories Manufacturing	3714	C
154857	Boat Building and Repairing Shop Manufacturing	3732	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
159023	Signs and Advertising Display Manufacturing	3993	C
159552	Local Trucking, without Storage	4212	C
155246	Refuse Systems	4953	C
155263	Refuse Systems	4953	C
154792	Farm and Garden Machinery	5083	C
154793	Farm and Garden Machinery	5083	C
159021	Farm and Garden Machinery	5083	C
155256	Scrap and Waste Materials	5093	C
154920	Petroleum Bulk Stations and Terminals (Truck Farm)	5171	C
154915	Gasoline Service Station	5541	C
155229	Mobile Home Park	6515	C
155254	Recreational Vehicle Parks and Campsites	7033	C
154913	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
154972	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
155224	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
155265	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
154666	Auto Truck Repair Service	7538	C
155152	Auto Truck Repair Service	7538	C
155232	Auto Truck Repair Service	7538	C
159009	Auto Truck Repair Service	7538	C
154867	Car Wash	7542	C
154922	Repair Services, Nec	7699	C
155222	Golf Course	7992	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2000632	Mcbride, Jack	A-NECF-BA02	B
2000933	Gilbert, Richard D.	A-NECF-BA03	B
2001001	Bahr, Rudolph	A-NECF-BA01	B
2001989	Gilbert, Raymond	A-NECF-BA04	B
2002038	Mcdaniel, Thane L.	A-MCAN-BA02	B
2002322	Ensminger Seed	A-NEAL-BA01	B
2000915	Edwards, Donald	A-NEWO-BA01	C
2001068	Bunnel, Russell	A-MCAN-M010	C
2001115	Sprague, Max	A-NEAL-S005	C
2001301	Holloway, Neil W.	A-MCAN-S027	C
2002107	Strickler Holstein Farm	A-NEAL-M003	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001788	Conoco	26910	B
3000156	Rodgers Oil Co	01844	C
3001335	Wolf Creek Nuclear Operating	23762	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000367	PRIME WESTERN SMELTER (OLD); GAS CITY, KS	C300100029	B
7000368	WEBSTER/MILLER REFINERY	C300100189	B
7000370	EMPRISE BANK/COBERLY RECYCLING	C300103000	B
7000371	EAST IOLA SMELTER SITE	C300103004	B
7000374	HISER IMPLEMENT	C300170948	B
7000365	BERG MANUFACTURING SITE #3	C300100007	C
7000366	BERG MANUFACTURING SITE #4	C300100008	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000369	IMP BOAT, IOLA	C300100341	C
7000372	EAST LA HARPE SMELTER SITE	C300103005	C
7000373	WEST LA HARPE SMELTER SITE	C300103006	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000043	Allen County	0101-S	B
5000298	Saueressig Construction	0288-S	B
5000611	City of Iola	0598-S	B
5000306	Coffey County	0297-S	C
5000346	Walton Foundry	0338-S	C
5000349	Kansas Gas and Electric	0341-S	C
5000418	Walton Foundry	0409-S	C
5000602	Marvin Boyer	0589-S	C
5000661	City of Iola	0649-S	C
5000790	Coffey County HHW	0764-S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000264	BURLINGTON MWTP	M-NE07-OO01	B

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000829	HUNT MIDWEST – SETTLEMYER	I-NE14-PO01	B
6000830	NELSON QUARRY – STRICKLER	I-NE14-PO02	B
6000860	IOLA POWER PLANT	I-NE37-CO01	B
6000862	HUNT MIDWEST – LONE ELM QUARRY	I-NE44-PO01	B
6000864	HARSHMAN CONST. – KISTNER QUARRY	I-NE51-PO03	B
6001587	BURLINGTON – MUNICIPAL PLT	M-NE07-OO02	B
6001615	GRIDLEY MWTP	M-NE32-OO01	B
6001622	IOLA MWTP	M-NE37-IO01	B
6001623	IOLA MWTP	M-NE37-IO01	B
6001624	ALLEN CO. S.D. #1	M-NE37-OO02	B
6001628	LEROY MWTP	M-NE42-OO01	B
6002023	AMERICAN METAL PRODUCTS, INC.	P-NE42-OO01	B
6000265	LA HARPE	M-NE39-OO01	C
6000816	WOLF CREEK NUCLEAR OPERATING CORPOR.	I-NE07-PO02	C
6000817	WOLF CREEK NUCLEAR OPERATING CORPOR.	I-NE07-PO02	C
6000818	WOLF CREEK NUCLEAR OPERATING CORPOR.	I-NE07-PO02	C
6000819	WOLF CREEK NUCLEAR OPERATING CORPOR.	I-NE07-PO02	C
6000820	WOLF CREEK NUCLEAR OPERATING CORPOR.	I-NE07-PO02	C
6000821	NELSON QUARRY – BURLINGTON	I-NE07-PO03	C
6000846	NELSON QUARRY – STOKES QUARRY	I-NE30-PO01	C
6000861	ALLEN COUNTY QUARRY	I-NE39-PO01	C
6001597	COLONY MWTP	M-NE14-OO01	C
6001625	LAHARPE	M-NE39-OO02	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001636	NEW STRAWN	M-NE51-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **HUMBOLDT, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000680	Coffey County Recycling Center	0	B
9000679	Coffey County HHW Center	4953	B
9000673	Oil Station	5541	B
9000675	Convenience Store	5541	B
9000677	Gas station	5541	B
9000676	Car Wash	7542	B
9000678	Coffey County Subtitle D Landfill	10090	C
9000682	Convenience Store	5541	C
9000691	Car Wash	7542	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **HUMBOLDT, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Sedimentation	Pesticides	IOC's	SOC's	VOC's	E – P
22	23	6	76	21	56	20

A – Microbiological

B2 – Sedimentation

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

B1 – Eutrophication – Phosphorous

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **HUMBOLDT, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2077	Animal and Marine Fats and Oils Manufacturing	BOD, oil and grease, TSS	A
"	"	"	B
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
3732	Boat Building and Repairing Shop Manufacturing	inorganics, VOCs	B
"	"	"	D
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
4939	Combination Utility Services, nec	Inorganics, VOCs	B
"	"	"	D
3272	Concrete Products Manufacturing	Minerals and TSS	B
1381	Drilling Oil and Gas Wells	Oil, Salt Water	B
"	"	"	C
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
1611	Highway and Street Construction	Sedimentation	B2
2819	Industrial Inorganic Chemicals Manufacturing	metals, solvents	B
"	"	"	D
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3442	Metal Doors, Sash, and Trim Manufacturing	inorganics	B
"	"	"	D
2542	Metal Partitions and Fixtures Manufacturing	VOCs	D
3296	Mineral Wool Manufacturing	Metals, minerals and TSS	B
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
6515	Mobile Home Park	Sanitary wastes, Fertilizers	B1
"	"	"	B*
3714	Motor vehicle Parts and Accessories Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
1389	Oil and Gas Field services	Oil, Salt Water	B
"	"	"	C
5171	Petroleum Bulk Stations and Terminals (Truck Farm)	Inorganics, VOCs	B
"	"	"	D
3089	Plastics products Manufacturing	inorganics, VOCs	B
"	"	"	D
3561	Pumps and Pumping Equipment Manufacturing	inorganics, VOCs	B
"	"	"	D
3273	Ready-mix Concrete Plant	Minerals and TSS	B
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B*
"	"	"	C*

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1429	Rock Quarry	Sedimentation	B2
3052	Rubber and plastics hose and belting Manufacturing	Inorganics, metals, VOCs	B
"	"	"	D
5093	Scrap and Waste Materials	Metals, TSS	B
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	B
"	"	"	D
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2448	Wood Pallets and Skids Manufacturing	TSS, VOCs	B
"	"	"	D
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	B
"	"	"	C

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	D
241	Dairy Farms	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
5561	Recreational vehicle sales and repair	Inorganics	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D
7699	Repair Services, Nec	inorganics	B

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2077	Animal and Marine Fats and Oils Manufacturing	BOD, oil and grease, TSS	Wastewater pretreatment and/or discharge to a POTW. Grounds maintenance and cleanup. Fat traps on sewer lines.	40 CFR 122 and State or federal Storm water pollution prevention regulations
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
3732	Boat Building and Repairing Shop Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct. Recycle where possible. Manage chemicals carefully	State or federal Storm water pollution prevention regulations
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
4939	Combination Utility Services, nec	Inorganics, VOCs	Maintain secondary containment for fuel storage and fueling areas. Maintain and inspect. Effect repairs promptly	NA
3272	Concrete Products Manufacturing	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1381	Drilling Oil and Gas Wells	Oil, Salt Water	Drill water retention and treatment	KAR 28–41, 45, 40 CFR 435
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
7992	Golf Course	Fertilizers and pesticides	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals.	KDHE, KAR 28–16
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
2819	Industrial Inorganic Chemicals Manufacturing	metals, solvents	Recycle chemical wastes where possible.	40 CFR 415 and State or federal Storm water pollution prevention regulations
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
3442	Metal Doors, Sash, and Trim Manufacturing	inorganics	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	State or federal Storm water pollution prevention regulations
2542	Metal Partitions and Fixtures Manufacturing	VOCs	Discharge of process waters to POTW.	State or federal Storm water pollution prevention regulations
3296	Mineral Wool Manufacturing	Metals, minerals and TSS	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 436 and State or federal Storm water pollution prevention regulations
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28-5

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3714	Motor vehicle Parts and Accessories Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 464 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1389	Oil and Gas Field services	Oil, Salt Water	Proper management of production wastes	KAR 28–41, 45, 40 CFR 435
5171	Petroleum Bulk Stations and Terminals (Truck Farm)	Inorganics, VOCs	Maintain secondary containment for fuel storage and fueling areas. Maintain and inspect. Effect repairs promptly	State or federal Storm water pollution prevention regulations
3089	Plastics products Manufacturing	inorganics, VOCs	Pre-treat wastewater prior to discharge. Minimize outdoor storage and control storm water runoff.	40 CFR 463 and State or federal Storm water pollution prevention regulations
3561	Pumps and Pumping Equipment Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	NA
1429	Rock Quarry	Sedimentation	Erosion and Sediment Control	KAR 28-16
3052	Rubber and plastics hose and belting Manufacturing	Inorganics, metals, VOCs	Pre-treat wastewater prior to discharge. Minimize outdoor storage and control storm water runoff.	40 CFR 428 and State or federal Storm water pollution prevention regulations
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2448	Wood Pallets and Skids Manufacturing	TSS, VOCs	Discharge of process waters to POTW. Minimize outdoor storage.	State or federal Storm water pollution prevention regulations
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
241	Dairy Farms	Sanitary, fertilizers	Collect and treat process wastes. Use good erosion control practices. Minimize storm water contact with contaminants.	40 CFR 405

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	Maintain animal feeding areas and feed storage areas to minimize contact with storm water. Collect and treat process wastes.	40 CFR 412 and State or federal Storm water pollution prevention regulations
5561	Recreational vehicle sales and repair	Inorganics	Discharge to a POTW. Store oils and lubricants properly	Discharge to a POTW. Store oils and lubricants properly
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Surface Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds

B1 – Eutrophication – Phosphorous

B2 – Sedimentation **C** – Synthetic Organic Compounds

C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B1	B2	C	C*	D
1	Is the intake located at a treatment plant?	No	1	1	0	0	1	1	1
2	Is there an open channel conveyance from the intake to the treatment plant?	No	0	0	0	0	0	0	0
3	Does a PWS own or control the conveyance right-of-way?	No	1	1	0	0	1	1	1
4	Does a PWS own or control the area within 1/4 mile of intake?	No	1	1	0	0	1	1	1
5	Is the area within 1/4 mile of the intake entirely native grass?	No	1	1	0	0	1	1	1
6	Is transportation infrastructure in close proximity to the intake?	No	0	0	0	0	0	0	0
7	Are there water quality protection plans for the transportation infrastructure?	Yes	0	0	0	0	0	0	0
8	Are any commercial, industrial, or urban areas present?	Yes	1	1	0	0	1	1	1
9	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	0	0	1	1	1
10	Is riparian area vegetated?	Yes	0	0	0	0	0	0	0
11	Has riparian area been farmed up to the stream/riverbank?	No	0	0	0	0	0	0	0
12	Is there a lack of native grass or trees?	No	0	0	0	0	0	1	0
13	Is livestock use present in riparian area?	No	0	0	0	0	0	0	0
14	Are any confined livestock production sites in riparian area?	No	0	0	0	0	0	0	0
15	Is each confinement area registered with KDHE?	Yes	0	0	0	0	0	0	0
16	Are any row crops (corn, milo, soybean) present?	Yes	0	0	0	0	0	1	0
17	Are water quality protection plans in use for each cropland?	No	0	0	0	0	0	1	1

No.	Question	Response	A	B	B1	B2	C	C*	D
18	Are any orchards present?	No	0	0	0	0	0	0	0
19	Are water quality protection plans in use for each orchard?	Yes	0	0	0	0	0	0	0
20	Is the intake a river intake?	Yes	1	1	0	1	1	1	1
21	Is the intake at a city-owned lake?	No	1	1	1	1	1	1	1
22	Is there water quality monitoring conducted at the river or lake?	Yes	0	0	0	0	0	0	0
23	Is TMDL needed for any of the rivers or lakes?	Yes	1	1	1	1	1	1	1
24	Are TMDL pollutants of concern reported by monitoring?	Yes	0	0	0	0	0	0	0
25	Are any point source discharges within 16 miles upstream of intake?	Yes	1	1	1	1	1	0	1
26	Is pretreatment required at any of the point sources?	Yes	1	1	1	1	1	0	1
27	Are all riparian buffers vegetated?	Yes	0	0	0	0	0	0	0
28	Are vegetated riparian buffer and a water quality protection plans in place?	No	1	1	1	1	0	1	0
29	Is there urbanized land within riparian buffer?	No	0	0	0	0	0	0	0
30	Is a NPDES stormwater permit required for the urbanized areas?	No	1	1	1	1	1	1	1
31	Are voluntary water quality protection plans in place for each urbanized area?	Yes	0	0	0	0	0	0	0
32	Is there industrial land use within riparian buffer?	No	0	0	0	0	0	0	0
33	Is NPDES stormwater permit required for industrial areas?	No	1	1	1	1	1	1	1
34	Are voluntary water quality protection plans in place for each industrial area?	Yes	0	0	0	0	0	0	0
35	Are there livestock present?	Yes	1	0	1	0	0	1	0
36	Is there livestock confinement present?	Yes	1	0	1	0	0	1	0
37	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0	0
38	Are any row crops (corn, milo, soybeans) present?	Yes	0	0	1	1	0	1	0
39	Are water quality protection plans in use for each row crop production?	No	0	0	1	1	0	1	0
40	Are any orchards present?	No	0	0	0	0	0	0	0
41	Are water quality protection plans in use for each orchard?	Yes	0	0	0	0	0	0	0
42	Is there any small grain (wheat, oats, barley) production?	Yes	0	0	1	1	0	1	0
43	Are water quality protection plans in use for each small grain production?	No	0	0	1	1	0	1	0
44	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	0	0	0	0	0
45	Is a general watershed water quality protection plan in use?	No	1	1	1	1	1	1	1
46	Are any point source discharges within 16 miles upstream of intake?	Yes	0	0	0	0	0	0	0
47	Is pretreatment required at any of the point sources?	Yes	1	1	1	1	1	0	1

Public Water Supply: **HUMBOLDT, CITY OF**
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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
158992	Blue square is car wash located at 4th and Kennedy Street, Burlington, KS.	Marilyn Eccles

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Car Wash	9000676	Car wash	Marilyn Eccles
Car Wash	9000691	Car Wash	Marilyn Eccles
Coffey County HHW Center	9000679	HHW	Marilyn Eccles
Coffey County Recycling Center	9000680	Recycling Center	Marilyn Eccles
Coffey County Subtitle D Landfill	9000678	Landfill	Marilyn Eccles
Convenience Store	9000675	Gas Station	Marilyn Eccles
Convenience Store	9000682	Gas Station	Marilyn Eccles
Gas station	9000677	Gas Station	Marilyn Eccles
Oil Station	9000673	Gasoline Service Station	Marilyn Eccles
Oil Station	9000673	Gasoline Service Station	Marilyn Eccles
Oil Station	9000673	Please note that 75 Hwy is 4th Street and map is not accurate. The Amoco gas station is located to the east of Hwy 75/ 4th Street. The location of the red dot indicates the gas station which is based on the GIS map.	Marilyn Eccles

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **HUMBOLDT, CITY OF**
Assessment Area: **1013**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		